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ABSTRACT

Reviewed is research on the use of drug therapy with children who have learning and behavior disorders, and reported are results of an opinion survey of 10 teachers of 31 5- to 18-year-old emotionally disturbed children. Briefly described are the primary and side effects of stimulant drugs, tranquilizers and sedatives, anticonvulsants, antidepressants, and the new drug of Pemoline (Cylert). Teachers in the survey are reported as unanimous in their opinion that each of the 30 children receiving drug therapy improved their social and academic performance when receiving the drugs. The author concludes that drugs are indicated, at least temporarily, for some children with behavior disorders. (DB)

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The Medication of Children with Learning and Behavior Disorders

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The Medication of Children with Learning and Behavior Disorders

The use of psychoactive drugs in the management and treatment of children with learning and behavior disorders has been, and continues to be, a controversial issue. Within the past few years, there has arisen a growing concern among those who deal with exceptional children with a variety of educational, social, moral, legal, and medical problems associated with the use of drugs. Teachers have often been strong proponents of drug treatment for problem students. The drug industry has continued to promote the use of medication (Hentoff, 1972), and the physician's prescription for medication may be based primarily upon a description of the child's behavior reported by an overanxious parent or an insistent teacher (Denhoff, 1971). Examples of overzealous drug salesmen, educators, and parents have been pointed out in a Congressional Hearing which was convened in 1970 by Congressman Cornelius Gallagher for the purpose of investigating the extent of government involvement in this practice (Grinspoon & Singer, 1973; Laufer, 1971). The Office of Child Development, however, has cited evidence that the appropriate use of stimulant and tranquilizing drugs is an important facet of the treatment program of some children with learning and behavior disorders (1971). It is understandable that the professionals who work with exceptional children remain in a dilemma.

Far from providing an answer, a review of the literature contributes further to the confusion surrounding the issue. A number of recent articles have dealt with psychopharmacology in children (Conners, 1972; DiMascio, 1971; Grinspoon & Singer, 1973; Kornetsky, 1975). The authors of these and other reviews point to the paucity of controlled research studies, particularly in the schools, and to the contradictory results reported by various researchers. Even when studying groups of children with the same diagnostic label, one researcher may find a certain drug useful while another finds it contraindicted. Furthermore, most of the research with children has dealt with problems of a clinical nature rather than those of the school (Sprague, Barnes, & Werry, 1970). Teachers of exceptional children, while not oblivious to these problems, are understandably more concerned with the effects of drugs upon overt classroom behavior and the learning process. Administrators of public school programs for exceptional children are concerned with school policy, which differs considerably from system to system, regarding the use of medication in the school. They must also deal with the problems of storing and dispensing the medication if this is a permissable procedure.

Educators of exceptional children are painfully aware of many abuses of medication. Children have come to school too drugged to function, parents have sent pills to school in the hands of disturbed children in unmarked bottles, physicians may explain that they have prescribed medication for the child because this was the parent's wish, teachers may not be informed

that a child is actually taking medication, and they may not be informed when the drugs are changed or discontinued. College students in a practicum setting have reported that children in a residential center have been medicated to such an extent that their nostrils dried, cracked, and bled constantly. Psychotic children have been given three or four different drugs each day by parents who are psychiatric patients.

At the same time, it has been suggested that the failure to medicate, when drugs are indicated and prescribed, is an abuse of equal degree (Slezinski, 1976). According to Dr. Slezinski, it is also extremely important that the medication be given to the child exactly as prescribed, which might necessitate the child's taking medication during the school day. For example, some drugs may be given in a long-acting tablet form. Ritalin (methylphenidate), which is widely used in the treatment of hyperkinetic children, is usually administered two or three times daily, 30 to 40 minutes before meals, and has a short span in terms of effectiveness.

This report does not attempt a comprehensive review of research on the use of medication with children. Recent reviews are available which summarize much of the literature on the subject (Baker, 1968; Conners, 1972; Eisenberg, 1972; Eisenberg & Conners, 1971; Eveloff, 1966; Fish, 1960; Freeman, 1970, 1971; Grinspoon & Singer, 1973; Kornetsky, 1975; Werry, Sprague, Weiss, & Minde, 1970). The effects and symptoms included are those which might be noted in children in the classroom and would there-

fore be of interest to educators.

Stimulant Drugs

Among the various classes of drugs, the central nervous system stimulants have been the most carefully researched and the most widely used with school children (Clarizio & McCoy, 1976). According to Conners (1972), however, the only well-controlled studies have dealt with the effects of Ritalin (methylphenidate) and Deanol (dextroamphetmine). A number of positive effects have been reported by researchers. Many children exhibit increased signs of happiness, friendliness, and cooperativeness. Stimulants may also facilitate the child's ability to attend and to utilize cognitive abilities, to inhibit behavior and perform in a more controlled manner, and to engage in more goal-directed pursuits.

Various negative effects associated with the use of stimulant drugs have been reported. The sympathomimetic amines may cause dilatation of the pupils, rise in blood pressure, increase in heart rate, construction of the blood vessels, variability in cardiac output, relaxation of intestinal muscles, and painful constriction of the urinary sphincter.

Amphetamines have been found to cause many but not necessarily all of the above symptoms. These side effects appear to be dose-related in that some symptoms appear only with greater dosage. Amphetamines may cause anorexia (loss of appetite), increase in blood pressure, and a difference in heart rate. Large doses may cause cardiac arrythmia and an increase in respiratory

rate. An overdose may cause restlessness, tremor, hyperactive reflexes, irritability, insomnia, confusion, anxiety, hallucinations, delirium, arrythmia, anginal pain, dry mouth, nausea, vomiting, diarrhea, psychotic states, convulsions, coma, and death.

There is some evidence which suggests negative effects upon children who have been treated with stimulant drugs over a considerable period of time. Safer and Allen (1972) report a significant reduction in growth (both weight and height) in a group of children who had taken stimulants for two or more years, as compared with a non-medicated control group. In followup studies of long-term effects, however, there has been no evidence to suggest any harmful effects from properly prescribed stimulant drugs (Denhoff, 1973). Conners (1972) suggests that there is also a dearth of evidence that there is any long-term gain in children who have been medicated.

At the onset of medication with stimulant drugs, children may exhibit anorexia, insomnia, mild stomachaches and headaches, mild tremor, and an increase in behaviors normally associated with tension, such as nail-biting or nose-picking. On the other hand, some children may appear drowsy. Some children may appear pale, sallow, with sunken cheeks and dark circles under their eyes. Many of these symptoms disappear with continued administration of the drug.

Tranquilizers and Sedatives

Tranquilizers and sedatives are generally prescribed for

psychotic children instead of stimulant drugs (Freeman, 1975). Included in this class of drugs are the phenothiazines, of which chlorpromazine (thorazine) is generally considered to be the safest in terms of side effects. Thioridazine (Mellaril) reserpine, and imipramine may also be prescribed for children with behavior disorders. Various negative effects of the phenothiazines include jaundice, blood abnormalities, wryneck, lockjaw, and seizures.

Barbiturates, such as phenobarbitol, are considered to be contraindicated, because of a tendency to produce hyperexcitement (Conners, 1972). Imipramine, according to Brown, Winsberg, Bialer, and Press (1973), has been found to cause seizures in some children.

Anticonvulsants

Diphenylhydantoin (Dilantin) is often prescribed in conjunction with phenobarbitol, a barbiturate, for the control of seizures in epileptics. According to the authors' recent survey, a combination of Dilantin and Valium is currently being used in the treatment of some children who are subject to seizures. It is extremely important that the dosage of these drugs be individualized, with consideration given to age, body weight, and physical condition of the child.

No benefits have been reported in the use of anticonvulsants in the treatment of behavior disorders. The results of such studies have been inconclusive (Conners, 1972).

Antidepressants

The tricyclicamines have been prescribed for the treatment of behavior disorders such as enuresis and childhood depression. However, there has been very little contolled clinical investigation concerning the effects of these drugs with children (Connors, 1972).

New Drugs

Pemoline (Cylert) is the most recent addition to the list of stimulant drugs used in the treatment of children with learning disorders. The effect of pemoline is similar to that of other known stimulants although it is structurally dissimilar.

The Present Study

The study done in connection with this report was limited to one school district. Questionaires were given to ten certified teachers of the Emotionally Disturbed, (see appendix). Data were returned on a sample of 31 children, all of whom were judged by the professional teacher to have severe learning and/or behavioral disabilities. Ages ranged from 5 years to 18 years, and the sex distribution included 21 males and 10 females. Among the 31 children, all except one female were receiving medication at the time of the study.

The teachers were unanimous in their responses to Question 3, both A and B sections. They stated that each child performed better both socially and academically with the drugs. Many were using some form of operant strategy in conjunction with the medication which seems to produce much more positive results.

Christensen (1972) studied the combined effects of operant

conditioning and methylphenidate on hyperactive behavior with similar results.

At the present writing, it seems reasonable to conclude that drugs are indicated, at least temporarily, for some children who manifest behavior disorders. There is evidence that a coupling of drugs with sound teaching strategies, operant techniques in particular, probably result in the most effective and lasting treatment for children with learning and behavior disorders.

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Appendix

INDIVIDUAL DATA SHEET

1. Identifying Information

Child's C.A._____ Sex_____ I.Q._____
years months
Diagnosis (ED, LD, MR):_____Teacher Opinion:_____

2. What type of medications(s) (Generic or brand names)?
(Example: methylphenidate, Ritalin)

Type	Dosage	How Long

3. Brief comparison of behavior with and without medication.

A. Social
1. With

2. Without

B. Academic (Achievement in reading, arithmetic)
1. With

2. Without

4. Parent opinion about medication, if known.